

REMARKS

Claims 1-30 are pending in the application. In view of applicants' representative remarks and further consideration, the examiner withdrew the restriction made in the office action with a mail date of January 9, 2006. Therefore, claims 1-30 will be examined. Reconsideration of the application is respectfully requested in view of the following remarks and the claim amendment.

I. Rejection of Claims 1-6 and 8-30 Under 35 U.S.C. § 102(e)

Claims 1-6 and 8-30 are rejected under 35 U.S.C. § 102(e) as being anticipated by Aronson *et al.* (U.S. Patent 6,986,679 B1). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons.

Amended claim 1 is directed to an optoelectronic arrangement comprising, a printed circuit board, which defines a first direction parallel to a printed circuit board surface and a second direction perpendicular to the printed circuit board surface, a first electrical contact-making region of the printed circuit board with a plurality of first contacts, a receptacle structure arranged on the printed circuit board and having a receptacle opening for receiving a pluggable optoelectronic module, a pluggable optoelectronic module, a second electrical contact-making region of the optoelectronic module with a plurality of second contacts, and ***plug-in means for plugging the optoelectronic module into the receptacle structure initially in the first direction, and then in the second direction, resulting in a plugged-in position***, wherein the second contacts of the optoelectronic module are in electrical contact with the first contacts of the printed circuit board in the plugged-in position.

Claim 1, as amended, satisfies the criteria to apply 35 U.S.C. § 112. ***In order to arrive at the present invention, the USPTO must apply 35 U.S.C. § 112, sixth paragraph in appropriate cases, and give claims their broadest reasonable interpretation, in light of and consistent with the written description of the invention in the application.*** See In re Donaldson, 16 F.3d 1189, 1194, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994). A claim limitation will be interpreted to invoke 35 U.S.C. §

112, sixth paragraph, if it meets the following 3-prong analysis: (A) the claim limitations must use the phrase "means for" or "step for"; (B) the "means for" or "step for" must be modified by functional language; and (C) the phrase "means for" or "step for" must not be modified by sufficient structure, material or acts for achieving the specified function. MPEP § 2181, *citing In re Donaldson*.

Accordingly, amended claim 1 meets the first prong of the analysis in that the limitation in claim 1 uses the phrase "means for". Claim 1 meets the second prong of the test as the "means for" phrase is modified by functional language. The functional language includes "plugging the optoelectrical module into the receptacle structure initially in the first direction, and then in the second direction, resulting in a plugged in position. The third prong of the analysis is met by amended claim 1, wherein the phrase "means for" is not modified by sufficient structure, material or acts for achieving the specified function. It is respectfully submitted that the amended claim 1 limitation should therefore be interpreted to invoke 35 U.S.C. § 112, sixth paragraph. Section 112, sixth paragraph states that a claim limitation expressed in means-plus-function language "shall be construed to cover the corresponding structure described in the specification and equivalents thereof."

The present invention recites in claim 1 "structure initially in the first direction, and then in the second direction, resulting in a plugged in position, wherein the second contacts of the optoelectronic module are in electrical contact with the first contacts of the printed circuit board in the plugged-in position. An advantage of this approach in claim 1 is that it is ***realizes a multiplicity of electrical contacts between the module and the printed circuit board despite the module being plugged in via the end side of the receptacle structure***. The end side of the receptacle structure typically has only a small area opening (See, for example, page 3, lines 34-38; page 4, lines 1-2; Figs. 1 and 2).

Aronson *et al.* do not teach these features. Rather, the cited reference discloses an ***edge connector formed at one end that is capable of electrically interfacing with a corresponding connector*** when the module is operatively received within a

port formed within the host cage (See Col. 3, lines 54-59; Col. 7 lines 39-47; Figs. 2, 7, 9 and 10). While Aronson *et al.* discuss that each edge connector is positioned so as to be capable of electrically interfacing with a corresponding connector when the module is operatively received within a port within the host cage (See Col. 8, Figs. 2, 4, 6, 8, 10, 12, 13, and 18), the reference is ***silent with respect to a plug-in means in two directions and a multiplicity of electrical contacts between the module and the printed circuit board despite the module being plugged in via the end side*** of the receptacle structure. A lowering movement of the module is not disclosed and is also not possible with Aronson *et al.* as the cited reference discloses host board edge connectors 322 and 324 (See Fig. 8).

The office action incorrectly asserts that the plurality of second contacts recited in claim 1 and shown in Fig. 2 as 140 is the same as the contacts 328 shown in Fig. 7 of Aronson *et al.* The contacts 140 illustrated in claim 1 are ***electrical*** contacts, wherein electrical contact is made with the individual electrical and optoelectrical components of module 1 (See page 10, lines 34-36). In contrast, in Aronson *et al.* the mounting posts 326 formed along the side walls 306, are received within corresponding receiving holes 328. ***The elements 328 in Aronson et al. that the examiner refers to are not electrical contacts but rather mounting holes for the EMI cage body 302.*** In addition, the second contacts of claim 1 are part of the optoelectrical module 1, as illustrated in Fig. 2. The reference mounting holes 328 (which the examiner refers to as second contacts) are located on the host board 320 in Fig. 7.

Assuming *arguendo*, that the contacts 108 in Aronson *et al.* of the edge connector 106 (See Fig 2) are considered second contacts in the sense of claim 1, these contacts 108 connect to the host board connectors 322 and 324 (See Fig. 9). In addition, the host board connectors 322 and 324 are located on top of the host printed board 320 (See Fig. 9), which ***are not contacts of an electrical contact-making region*** of the printed circuit board as claim 1 requires.

Therefore claim 1 is not anticipated by the cited art. Claims 2-6 and 8-30 depend from and further limit claim 1, which as highlighted above is not anticipated by

Aronson *et al.* Claims 2-6 and 8-30 are thus also patentable over the cited art. Accordingly, a reversal of the rejection of claim 1 and its associated dependant claims, listed above, is respectfully requested.

In addition, the office action mistakenly contends, with regard to claim 2, that Aronson *et al.* disclose a locking and unlocking mechanism comprising a lever (220) to move between two end positions at the end side of the module (200). However, this is not what is claimed in claim 2. Claim 2 recites that the plug-in means comprises a locking/unlocking mechanism formed on the module, by means of which mechanism the module is raised or lowered in the second direction. In other words, claim 2 requires that the locking/unlocking mechanism allows raising or lowering of the module in the second direction, perpendicular to the circuit board. There is no disclosure or suggestion in Aronson *et al.* regarding such features. Claim 2 is therefore patentable over the cited art. Accordingly, a reversal of the rejection of claim 2, listed above, is respectfully requested.

II. Rejection of Claim 7 Under 35 U.S.C. § 103(a)

Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Aronson *et al.* in view of U.S. Patent Application Serial No, 2004/0101257 (Kruger *et al.*).

Kruger *et al.* do not cure the aforementioned deficiency with respect to Aronson *et al.* Kruger *et al.* disclose an optical transceiver unlatching device for disengaging the optical transceiver from a mounting cage found in a host computer device (See abstract). However, Kruger *et al.* are ***silent with respect to a*** plug-in means for plugging the optoelectronic module into the receptacle structure initially in the first direction, and ***then in the second direction***, resulting in a plugged in position, wherein the second contacts of the optoelectronic module are in electrical contact with the first contacts of the printed circuit board in the plugged-in position.

Kruger *et al.* **do not disclose or suggest** plugging the optoelectronic module into the receptacle structure initially in the first direction, and then in the second

direction, resulting in a plugged in position, wherein the second contacts of the optoelectronic module are in electrical contact with the first contacts of the printed circuit board in the plugged-in position. Kruger *et al.* describes longitudinal motion only, namely, a reciprocating motion (See, for example, abstract, and paragraphs 12 and 15).

Therefore, Kruger *et al.* individually or in combination with Aronson *et al.* fail to teach or suggest all of the limitations of independent claim 1. Therefore, claim 7 which depends from 1 and provides further limitations to claim 1 is non-obvious over the prior art. Accordingly, withdrawal of this rejection is respectfully requested.



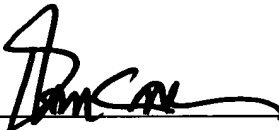
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CONCLUSION

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 50-1733, MAIKP130US.

Respectfully submitted,
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CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper or item referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first-class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date June 22, 2006


Christine Gillroy